```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OM protein - protein search, using sw model
             Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
        130
121.5
119
115.5
113.5
113.5
113.5
110.5
110.5
110.5
110.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.5
100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          May 29, 2002, 11:38:48; Search time 13.47 Seconds (without alignments) 1859.803 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-485-355B-50
3374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SwissProt_40:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         105224 seqs, 38719550 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MGDAGVASQRPHNRRGTRNV.....GKIAARVRARRARRAARAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GenCore version
Copyright (c) 1993 - 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length DB
        PIP_LACLC
GUNN_ERWCA
FIGE_CAUCR
FIGE_CAUCR
GUNN_ERWCA
VP4_ROTH3
ALSI_CANAL
N214_HUMAN
HSE_SCHPO
VP4_ROTB6
POLG_CXA9
PIEI_HUMAN
VP4_ROTF1
VP4_ROTF1
VP4_ROTF1
VP4_ROTF1
VP5O_HSVI1
ADU_THEET
RRPL_SV5WR
MGPC_MYCGE
YWR1_CAEEL
ADP1_MYCGAE
A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ILPR_BRALA
CHI1_BACCI
ALA1_CANAL
COAT_PAVHB
SACB_STRSL
GUXB_CELFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VP40_HCMVA
VGP3_EBVA8
VGP3_EBV
  HAGA_PORGI
MUR2_ENTHR
LAR_DROME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4.5
Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P16753 human cytom
Q07284 epstein-bar
P03200 epstein-bar
O02466 branchiosto
P20533 bacillus ci
O13368 candida alb
  P21404
P35590
P39590
P3901641
Q00130
Q00139
Q001396
Q03396
Q03396
P22747
Q10925
Q10925
P12474
Q151845
P39046
                                                                                                                                                                                                                                                                                                                                                                                               P20533
P013368
P013368
P013368
P015249
P50899
P160899
P160899
P160899
P160899
P1608999
P1608999994
P1608999994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Description
9 human parvo
2 streptococco
5 cellulomona
1 lactococcus
6 erwinia car
6 caulobacter
6 caulobacter
6 candida alb
0 candida alb
8 homo sapien
8 schizosacch
6 cyenome po
10 homo sapien
11 trota
10 trota
11 human rotav
11 trotalurid h
12 tamylopull
14 simian viru
15 simian viru
16 simian viru
17 mycoplasma
15 caenorhabdi
19 mycoplasma
15 porphyromon
16 enterococcu
1 drosophila
```

2	Έ.	CAPSID	- i - PI	36
LA + ALA- BONDS IN	Y: CLEAVES -ALA + SER- AND -A	CATALYTIC ACTIVITY THE SCAFFOLD PROTE:	-i - CA	388
ALA- -SER OR ALA- -	ENTIALL	ATALYTIC ACTIVITY	-!- CA	388
CLE	OTEIN AT THE C-TERM	SEMBLIN IS A PRODUCT OF SERVICE ASSESSMENT O	A.S	88
COMPONENT OF THE CAPSID PROGENY DNA.	BLY PROTEIN IS A CO	JNCTION: THE CAP		88
rus procease.";	or numan	383:279-282(19)	Nature	RL
		da B.C., Stalli	Holwer	RA
n R.A., , Wiegand R.C.,	l R.G., Stevens A.M., Stegeman ., Wittwer A.J., Palmier M.O.,	HS., Kurumbai an E.J., Pak J.Y	Shieh	RA RA
ţ	OB;	RAY CRYSTALLOGRAPHY (2.27 ANDLINE=96399137; PubMed=88057	X-RAY CRY	RRP
		383:2/5-2/9(19	Nacure [4]	RRE
otease.";	uid S.A.; ve site in cytomegalovirus pr	w.w., Abder-Meguid S. Le fold and active sit	"Uniqu	RA
S.S., Janson C.A.,	· P (		Qiu X.,	RRA
	ANGST	S	X-RAY	R R
	protease. 96).	Comegalovirus 33:272-275(19	human Nature	R R R
1 structure of	e fold r	serine-proteas	"A new	RIA
Cordingley M.G.,	ol MJ.; Bonneau P.R.,	L., Qian C., Mas	Tong I	RA
	(2.0 ANGSTROMS) OF PROTEASE Med=8805706;	CRYSTALLOGRAPHY (2. NE=96399135; PubMed=	X-RAY CR	R R P
	Immuno1. 154:125-169(1990).	Top. Microbiol.	Curr.	R P
(		egalovirus strai	cytome	곱
rrell B f human	P., Westo	ie E., Satchwell	Preddi "Analy	RA
itti Ger	Kouzarides T.	ell T., Hutchiso	Horsne	R A
2		SEQUENCE FROM N.A. MEDLINE=90269039; Pub	SEQUEN	RRP
		raxiD=10360;	NCB1_'1	RCX
Ф;	ses, no RNA stagé; Herpesvirida Cytomegalovirus.	virus	Viruse Betahe	88
	rain AD169)	lovir	Human	og g
	in].	5	Capsid	DE
(FC 3.4.21.97):	Last annotation update)	ςΰ.	16-OCT	D D
	Created) Last sequence update	55	01 - AUG	999
	RD; PRT; 708 AA.	HCMVA STANDARD	SULT 1 40_HCMVA VP40_H	A I V R
	ALIGNMENTS			
P16397 bacillus su Q10900 mycobacteri P20471 rhizobium m	33 1 SUBE_BACKU 35 1 CTPI_MYCTU 32 1 NDVB_RHIME	100 3.0 14 100 3.0 16 100 3.0 28	44 3 5	
95	л <b>4</b> і	100 3.0 5	. بىر ن	
5 1	1 8 1 1	0.5 3.0 12 $0.5$ 3.0 24	9 10	
57	2 1	0.5 3.0 5 0.5 3.0 7	7 10	
13	4 9 1	101 3.0 25 0.5 3.0 5	5 10	
39	6	3.0 12	4	

CC

-!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY S21 (SERINE PROTEASE).

```
RESULT 2
VGP3_EBVA8
ID VGP3_EBVA8
                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              $\frac{1}{2} \frac{1}{2} \frac
                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; X17403; CAA35353.1; -
EMBL; X17403; CAA35354.1; A
PIR; S09843; OOBEBB
PDB; 1MPO; 15-OCT-97.
PDB; 1LAY; 26-SEP-97.
PDB; 1LAY; 04-SEP-97.
PDB; 1CAY; 04-SEP-97.
PDB; 1CAY; 04-SEP-97.
PDB; 1CAY; 04-SEP-97.
PDB; 1CAY; 04-SEP-97.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACT_SITE
ACT_SITE
ACT_SITE
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CHAIN
CHAIN
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR001847; Assemblin. Pfam; PF00716; Peptidase_S21; 1. PRINTS; PR00236; HSVCAPSIDP40.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Coat protein; Hydrolase; 3D-structure.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROPEP
                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                            496
                                                                                                                               593
                                                                                                                                                                          591
                                                                                                                                                                                                                                                                                                                                                                                                                             428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     269 ALTPTSLPQYDVSEAYAL-HTLTFARPSSAAALAFVWAGLPQGGTAPAGTPAWEQASSGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY:
                                                                                                                                                                          VLKSEATSSIIKSVGETAVGAAQSGLAKLPGLLMSVPGKIAARVRA 636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NPAGGGSAPTFTVRVPPSNAYTNTVFRNTLLETRPSSRRLELPMP--PADFGQTVANNPK
                                                                                                                            ALPSAASSSPTTTTVCTPTGELTSGGGETPTALLSGGAKVAERAQA
                                                                                                                                                                                                                                                                                                                                                                                                                             LAARHFADYVDPHYPGWGRRYEPAPSLHPSYPVPPPPPS----PAYYRRRDSPGGMD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IEQSLLKETL-----GCYLVHSKMRNPVFQLTPASSFGAVSFNNPGYERTRDLPD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----GASRSAVPVMYPGAVA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YLTWRHNGTTFPAGSVSYVLPEGFALERYDPNDGSWTDFASAGDTVTFRQVAVDEVVVTN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AESPPSLSPSEPAEAASMSHPLSAAVPAATA-----
                                                                                                                                                                                                                             KRLKSHVNSDGGSGGHAG--SNQQQQQRYDELRDAIHEL--KRDLFAARQS--
                                                                                                                                                                                                                                                                         ---VTNVNTPFGQFAHAGLLKNEEILCLADDLATRLTGVYPATDNFAAAVSAFAANMLSS
                                                                                                                                                                                                                                                                                                                            EPPSGWERYDGGHRGQSQKQHRHGGSGGHNKRRKET AAASSSSSDEDLSFPGEAEHGRAR
                                                                                                                                                                                                                                                                                                                                                                            ----YTGIRDSFDQNM---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -LAWPHDGVYLPKDAFFSLL-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity 21.5
39; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1
336
393
478
478
643
643
132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ξ
       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER HERPESVIRUSES CAPSID PROTEIN VP40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  256
643
708
708
708
708
708
708
708
708
708
7132
132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              73851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALT_INIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLEAVAGE (BY THE PROTEASE).
CLEAVAGE (BY THE PROTEASE) (
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
CHARGE RELAY SYSTEM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -----APPSASPAPLPLPSYPASYGAPVVGYDQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ASSEMBLIN (PROTEASE).
CAPSID ASSEMBLY PROTEIN (BY SIMILARITY).
C-TERMINAL PEPTIDE (BY SIMILARITY).
GENE ULBO PROTEIN.
GENE ULBO.5 PROTEIN.
GENE ULBO.4 PROTEIN.
GENE ULBO.3 PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 130; DB 1; Length 708, Pred. No. 0.13;
     PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           32A993D6586824C9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protease; Phosphorylation;
                                                                                                                                                                                                                                                                                                                                                                          ----STAVAHFRSLSHSCSIVTKTYQGWEG
     988
     A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PPGATVAGASPA - - - VSS - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels 124;
                                                                                                                            638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (PROBABLE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                           590
                                                                                                                                                                                                                                                                                                                                                                                                                             479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15;
```

```
STEET TO THE TREET THE TREET TO THE TREET TH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q07284;
01-OCT-1996
01-OCT-1996
01-OCT-1996
                                                       CARBOHYD
CARBOHYD
                                                                                         CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                  CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Envelope
BLLF1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a celebrate the Swiss Institute of Bioinformatics and the EMBL the European Bioinformatics Institute. There are no restrict use by non-profit institutions as long as its content is modified and this statement is not removed. Usage by and for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Klein K., Mueller-Lantzsch N.;
Submitted (OCT-1992) to the EMBL/GenBank/DDBJ databases
-!- FUNCTION: RESPONSIBLE FOR EBV BINDING TO THE CR2 REV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Epstein-barr virus (strain AG876) (Human herpesvirus 4 Epstein-barr virus (strain P3HR-1) (Human herpesvirus Viruses; dsDNA viruses, no RNA stage; Herpesviridae; Gammaherpesvirinae; Lymphocryptovirus. NCBI_TaxID-82830, 82829;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 entities requires
or send an email t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN=AG876, AND P3HR-1;
MEDLINE=93331715; PubMed=8393237;
Lees J.F., Arrand J.E., Pepper S.V.,
                                                                                                                             CARBOHYD
                                                                                                                                           CARBOHYD
                                                                                                                                                               CARBOHYD
                                                                                                                                                                               CARBOHYD
                                                                                                                                                                                               CARBOHYD
                                                                                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                        CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Membrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN-P3HR-1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "The Epstein-Barr virus candidate vaccine antigen conserved between virus types A and B.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lees J.F., A. Arrand J.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Virology 195:578-586(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUBCELLULAR LOCATION: MOST ABUNDANT COMPONENT OF THE VIRAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B-CELLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ENVELOPE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         L07922; AAA02783.1;
L07923; AAA02787.1;
X67776; CAA47986.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           s requires a license agreement (S an email to license@lsb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           996 (Rel. 34, Created)
996 (Rel. 34, Last sequence update)
996 (Rel. 34, Last annotation update)
91ycoprotein GP340 (Membrane antigen)
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Glycoprotein;
     114
1166
1169
1195
1277
2279
2277
318
345
345
345
345
345
345
345
347
443
443
443
443
443
443
568
680
92388
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Antigen;
        MW.
                                                       N-LINKED
N-LINKED
N-LINKED
N-LINKED
                                                                                                                                                            N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
                                                                                                                                                                                                                                                                                  N-LINKED
N-LINKED
                                                                                                                                                                                                                                                                                                                                                    N-LINKED
N-LINKED
 N-LINKED (GLCNAC.
; 4394F6130DECCA8A
                                                                                                                                                                                                                                                                                                                                                                                                        N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                          N-LINKED
                                                                                                                                                                                                                                                                                                                                      N-LINKED
                     Protein
GECNAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Stewart J.P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            There are no restrictions ng as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (MA)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gp340/220 is highly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mackett M.,
                                                                                                                                                                                                                                                                                                                                                                                                     (POTENTIAL).
(POTENTIAL).
                                                                                         (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                            (POTENTIAL)
                                                                                                                                                             (POTENTIAL). (POTENTIAL). (POTENTIAL).
                                                       (POTENTIAL)
                         (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RECEPTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ons on its
in no way
commercial
```

Query Match
Best Local Similarity
Matches 138; Conser

Conservative

66;

Mismatches

3.6%; 20.3%;

Score 123; Pred. No. 0

.58; ۲.

Length 886;

Indels

Gaps

29;

```
SEQUENCE FROM N.A.

MEDLINE=84270667; PubMed=6087149;

Baer R., Bankier A.T., Biggin M.D., Deinir
Gibson T.J., Hatfull G., Hudson G.S., Satc
Tuffnell P.S., Barrell B.G.;
"DNA sequence and expression of the B95-8

Nature 310:207-211(1984).
                                                                                                                                                                                                            P03200; P03201;
21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 01, Last sequence update)
16-CCT-2001 (Rel. 40, Last annotation updat
Envelope glycoprotein GP340 (Membrane antig
                                                                                                                                                                                                                                                                                                                      EΒV
                                                                                                                                                                  Epstein-barr virus (strain Viruses; dsDNA viruses, no
                                                                                                                                    NCBI_TaxID=10377;
                                                                                                                                                    Gammaherpesvirinae;
                                                                                                                                                                                                                                                                                                     VGP3_EBV
                                                                                                                                                                                                                                                                                                                                                                               735
                                                                                                                                                                                                                                                                                                                                                                                                            596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            48
                                                                                                                                                                                                                                                                                                                                     ω
    FUNCTION:
                                                                                                                                                                                                                                                                                                                                                                                                      ATSSIIKSVGETAVGAAQS
                                                                                                                                                                                                                                                                                                                                                                               ATSPOAPSGOKTAVPTVTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QFAHAGLLKNEEILCLADDLATRLTGVYPAT-----DNFAAAVSAFAANMLSSVLKSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q--HNITSSSTSSMSLRPSSISETLSPSTSD-NSTSHMPLLTSAHPTGGENITQV-TPAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NPGYERTRDLPDYTGIR-DSFDQNMSTAVAHFRSLSHSCSIVTKTYQGWEGVTNVNTPFG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S-AVTTPTPNATSPTVGETSP--QANTTNHTLG-----GTSSTPVVTSPPKNATSAVTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TSPTPAVTTPTPNATSPTLGKTSPTSAVTTPTPNATSPTPAVTTPTPNATIPTLGKTSPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGPTVSTADVTSPTPAGTTSGASP----VTPSPSPRDNGTESKAPDMTSPTSAVTTPTPNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTTTHKVIFSKAPESTTTSPTLNTTGFAAPNTT-----TGLPSSTHVPTNLTA--PAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AWPNNTETDFKCKWTLTSGTPSGCENISGAFASNRTFDITVSGLGTAPKTLIITRTATNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QWINFTNDTTYYVRIRVLRPTYDVPDPTEGLVRTVSDYRLTYKAITCEANMPTLVDQGFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NITAVVR--AQGLD---VTLPLSLPTSAQDSNFS----VKTEMLG---NEID----IEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SRRLELPMPPADFGQTVANNPKIEQSLLKETLGCYLVHSKMRNPVFQLTPASSFGAVSFN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SGGYLTWRHNGTTFPAGSVSYVLPEGFALERYDPNDG-----SWTDFASAGDTVTFRQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PVSRFLGNNSILYVFYSGNGPKASGGDYCIQSNIVFSDEIPASQDMPTNTTDITYVGDN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PMFR----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IMEDGEISQVLPGDNKFNITCSGYESHVPSGGILTSTSPVAT--PIPGTGYAYSLRLTPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ARAVGEYSKIPDGLVKFSVDAEIRE-----IYNEECPVVTDVSVPLDGRQWSLSIFSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NFTAAAQDLAQSLDANTVTFPANISSMPEFRNWAKGKIDLDSDSIGWYFKYLDPAGATES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SLPQYDVSEAYALHTLTFARPSSAAALAFVWAGLPQGGTAPAGTPAWEQAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -TAYVAVANVENKEMSLD-----VVNDLI----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----NNPAGGGSAPTFTVRVPPSNAYTNT-----VFRNTLLETRPS
                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                  Lymphocryptovirus
                                                                                                                                                                                                                                                                                                                                                                                                                                       -HVSTSSPAPRPGTTSQASGPGNSSTSTKPGEVNVTKGTPPKN
                                                                                                                                                                                                                                                                                                                                                                                                           614
   FOR
                                                                                                                                                                  B95-8) (Human herpesvirus RNA stage; Herpesviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----IGGQYALTPT
   EBV
                                                                                                                                                                                                                                                                                                       PRT;
 BINDING
                                                           Deininger P
                                                                                                                                                                                                                                                                                                       907
                                                                                                                                                                                                                          update)
antigen)
                                                                                                                                                                                                                                                                                                       B
 TO
                            Epstein-Barr virus genome.";
THE
                                                                                                                                                                                                                          (MA) [Contains:
                                                         S.C.
   CR2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EWLNNLADWRYVVDSE
                                                                           Farrell
RECEPTOR
                                                                      P.J.,
                                                           <u>ر</u>
 HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     203
                                                                    ρy
            Q
                                           밁
                                                                                                     뭥
                                                                                                                                Q
                                                                                                                                                                               Query Match
Best Local :
                                                                                                                                                                  Matches
```

В Q

B δ δÃ

B õ 망

В

δÕ

밁 Ş В Q

Ϋ́ 멍 δõ 밁 δÃ 밁 δÃ 멍 δõ

밁

161 212 108 169 48

IMEDGEISQVLPGDNKFNITCSGYESHVPSGGILTSTSPVAT--PIPGTGYAYSLRLTPR

-TAYVAVANVENKEMSLD-----VVNDLI---

EWLNNLADWRYVVDSE

ARAVGEYSKIPDGLVKFSVDAEIRE

NITAVVR-

Similarity

3 19

. 6

Conservative

66;

Score 121.5; Pred. No. 0.77 56; Mismatches

.77; DB 266;

Indels Length

233;

Gaps

28;

107 211

1;

<del>..</del> PMFR-- NFTAAAQDLAQSLDANTYTFPANISSMPEFRNWAKGKIDLDSDSIGWYFKYLDPAGATES

VTLPLSLPTSAQDSNFS----VKTEMLG---NEID----IEC

-IYNEECPVVTDVSVPLDGRQWSLSIFSF

160

```
CARBOHYD
CARBOHYD
CARBOHYD
                    CARBOHYD
CARBOHYD
CARBOHYD
                                        CARBOHYD
CARBOHYD
                                                      CARBOHYD
CARBOHYD
                                                                   CARBOHYD
CARBOHYD
                                                                                                    CARBOHYD
CARBOHYD
                                                                                                                  CARBOHYD
CARBOHYD
                                                                                                                                                    CARBOHYD
CARBOHYD
                                                                                                                                                                       CARBOHYD
CARBOHYD
                                                                                                                                                                                                   CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                    CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                 CARBOHYD
CARBOHYD
       CARBOHYD
VARSPLIC
                                                                                                                                                                                                                                                                                          PIR;
                                                                                 CARBOHYD
                                                                                       CARBOHYD
                                                                                               CARBOHYD
                                                                                                                                CARBOHYD
                                                                                                                                      CARBOHYD
                                                                                                                                              CARBOHYD
                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                             CARBOHYD
                                                                                                                                                                                                                                                                                    PIR;
                                                                                                                                                                                                                                                                                                 PIR;
                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Ew the European Bioinformatics Institute. There are no restruce by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                      CARBOHYD
                                                                                                                                                                                                                                                                             Membrane;
                                                                                                                                                                                                                                                                                                       EMBL; V01555;
                                                                                                                                                                                                                                                                                                                          entities requires a
                                                                                                                                                                                                                                                                                                                                  modified and this statement is not removed
                                                                                                                                                                                                                                                                                                                    send an email
                                                                                                                                                                                                                                                                                   ; A03762; QQBE21.
; A03763; QQBE22.
; S33008; S33008.
                                                                                                                                                                                                                                                                                                                                                                              B-CELLS.
SUBCELLULAR LOCATION: MOST ABUNDANT COMPONENT OF THE VIRAL
                                                                                                                                                                                                                                                                                                                                                                          ENVELOPE.
                                                                                                                                                                                                                                                                      Glycoprotein;
                                                                                                                                                                                                                                                                                                        CAA24854.1;
                                                                                                                                                                                                                                                                                                                   s a license agreement (S to license@isb-sib.ch).
888 N
698 M
94431 MW;
                    Antigen; Late
N-LINKED
       N-LINKED
MISSING (
                                                                                       N-LINKED
N-LINKED
                                                                                                                                                   N-LINKED
N-LINKED
                                                                                                                                                                       N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
N-LINKED
                                       N-LINKED
N-LINKED
N-LINKED
N-LINKED
                                                                                                           N-LINKED
                          N-LINKED
                                                                         N-LINKED
                                                                                                                         N-LINKED
                                                                                                                                      N-LINKED
-LINKED (GLCNAC.
ISSING (IN GP220)
0750141CBCAC52C9
                                                                                                                                                                                                                                   (GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
(GLCNAC.
                         (GLCNAC
                                                                                                                                                                                                                                                                                                                           (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                       There are no restrictions on ng as its content is in no
                                                                                                                                                                                                                                                                                                                                Usage
                                                                                                                                                                                                                                                                            Alternative
                                       (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                             (POTENTIAL)
(POTENTIAL)
                                                                                                                                                                 (POTENTIAL)
(POTENTIAL)
                                                                                                                                                                                    (POTENTIAL)
(POTENTIAL)
                                                                                                                                                                                                                                    (POTENTIAL)
(POTENTIAL)
                                                                                       (POTENTIAL)
(POTENTIAL)
(POTENTIAL)
(POTENTIAL)
                                                                                                                 (POTENTIAL)
(POTENTIAL)
                                                                                                                                                                                                                      (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                  Ьy
                           (POTENTIAL)
                                                                                                                                                                                                                (POTENTIAL)
                                                                                                                                                                                                                                                               (POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                         POTENTIAL
                                                                                                                                      POTENTIAL
                                                                                                                                                                                                                                                        POTENTIAL !
                                                                                                                                                                                                                                                                                                                                  and
                                                                                                                                                                                                                                                                                                                                                      EMBL
                                                                                                                                                                                                                                                                                                                                                             þ
                                                                                                                                                                                                                                                                                                                                   for
                                                                                                                                                                                                                                                                                                                                                      collaboration
                                                                                                                                                                                                                                                                                                                                   commerci
                                                                                                                                                                                                                                                                                                                                               its
```

institutions as long

as its content

ŝ

ń

n no way

Usage

```
RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            β, δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
between
the Euro
                               This
                                                                                                                                                                                                                                        amphioxus.";
Mol. Endocri
                                                                                                                                                                                                                                                                                                                                                                                            002466;
01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Insulin-like peptide receptor precursor (EC 2.7.1.112) (ILP receptor).
Branchiostoma lanceolatum (Common lancelet) (Amphioxus).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BRALA
                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
MEDLINE-96408719; PubMed-8813726;
Pashmforoush M., Chan S.J., Steiner D.F.;
"Structure and expression of the insulin-like
                                                                                                                                                              ÷
                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=7740;
                                                                                                                                                                                                                                                                                                                                                                     Branchiostoma
                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Cephalochordata; Branchiostomidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               [LPR_BRALA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                270
ween the
European
                                                                        CYPOSINE PHOSPHATE.

SUBUNIT: PROBABLE TETRAMER OF 2 ALPHA AND 2 BETA CHAINS LINKED BY DISULFIDE BONDS. THE ALPHA CHAINS CONTRIBUTE TO THE FORMATION OF THE LIGAND-BINDING DOMAIN, WHILE THE BETA CHAIN CARRY THE KINASE DOMAIN (BY SIMILARITY).

SUBCELLULAR LOCATION: Type I membrane protein (By similarity).

SIMILARITY: BELONGS TO THE INSULIN RECEPTOR FAMILY OF TYROSINE-
                                                                                                                                                                                     . Endocrinol. 10:857-866(1996).
FUNCTION: THIS RECEPTOR BINDS TO THE INSULIN RELATED HAS A TYROSINE-PROTEIN KINASE ACTIVITY.
CATALYTIC ACTIVITY: ATP + a protein tyrosine - ADP +
                                                                PROTEIN KINASES.
SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GPGNSSTSTKPGEVNVTKGTPPQNATSPQAPSGQKTAVPTVTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TPNATSPTPAVTTPTPNATSPTPAVTTPTPNATSPTLGKTSPTSAVTTPTPNATSPTLGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TFRQVAVDEVVVT--------NNPAGGGSAPTFTVRVPPSNAYTNTVFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -- DNFAAAVSAFAANMLSSVLKSEATSSIIKSVGETAVGAAQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HSCSIVTKTYQGWEGVTNVNTPFGQFAHAGLLKNEEILCLADDLATRLTGVYPAT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LVHSKMRNPVFQLTPASSFGAVSFNNPGYERTRDLPDYTGIRDSFDQNMSTAVAHFRSLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TSPTSAVTTPTPNATSPTLGKTSPTS-AVTTPTPNAT-GPTVGETSP-QANATNHTLG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGPTVSTADVTSPTPAGTTSGASP-----VTPSPSPWDNGTESKAPDMTSSTSPVTTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTTTHKVIFSKAPESTTTSPTLNTTGFADPNTT-----TGLPSSTHVPTNLTA--PAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AWPNNTETDFKCKWTLTSGTPSGCENISGAFASNRTFDITVSGLGTAPKTLIITRTATNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----IGGQYALTPT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QWINFTNDTTYYVRIRVLRPTYDVPDPTEGLVRTVSDYRLTYKAITCEANMPTLVDQGFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HMPLLTSAHPTGGENITQV-TPASISTH-------HVSTSSPAPRPGTTSQAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SGGYLTWRHNGTTFPAGSVSYVLPEGFALERYDPNDGSW------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PVSRFLGNNSILYVFYSGNGPKASGGDYCIQSNIVFSDEIPASQDMPTNTTDITYVGDN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTSPTPVVTSQPKNATSAVTTGQ--HNITSSSTSSMSLRPSSNPETLSPSTSDNSTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SLPQYDVSEAYALHTLTFARPSSAAALAFVWAGLPQGGTAPAGTPAWEQAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -TLLETRPSSRRLELPMPPADFGQTVANNPKIEQSLLKETLGCY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1363
                                                                                                                                                                                                                                                                     peptide receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -TDFASAGDTV
                                                                                                                                                                                        protein
                                                                                                                                                                                                                         PEPTIDE
                                                                                                                                                                                                                                                                         from
                                                                                                                                                                                                                         AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    273
```

```
밁
                          δÃ
                                                               밁
                                                                                          δÃ
                                                                                                                                                                                                            Query Match
Best Local S
Matches 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF00041; fn3; 3. —
Pfam; PF000757; Furin-like; 1.
Pfam; PF00069; pkinase; 1.
Pfam; PF01030; Recep_L_domain; 1
PRINTS; PR00014; FNTYPEIII.
PRINTS; PR00109; TYRKINASE.
                                                                                                                                                                                                                                                                                         CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                       CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                     CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR003961; InterPro; IPR003962; InterPro; IPR002174; InterPro; IPR002011; InterPro; IPR001245; IPR001245;
                                                                                                                                                                                                                                                                                                                                                                                                                                     CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOD_RES
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROPEP
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SMART;
SMART;
SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS00107; PROTEIN_KINASE_ATP; 1.
PROSITE; PS00109; PROTEIN_KINASE_TYR; 1.
PROSITE; PS00239; RECEPTOR_TYR_KIN_I; 1.
PROSITE; PS50011; PROTEIN_KINASE_DOM; 1.
Transferase; Tyrosine-protein kinase; Receptor; Transmembrane; Glycoprotein; ATP-binding; Phosphorylation; Signal.
                                                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                       CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL;
HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    use by non-profit institu modified and this statement entitles requires a license or send an email to license@
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NP_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR000719;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR000494;
                               129
                                                                 416
                                                                                               79
                                                                                             NWAKGKIDLDSDSIGWYFK-----YLDPAGATESARAVGEYSKIPDGLVKFSVDA
                               ETRETYNEECPVVTDVSVPLDGRQWSLSTFSFPMFRTAYVAVANVENKEMSLDVVNDLTE
                                                             DWDRTDITIDEGKLFFHFNPKLCRHVILTMVDKVGLPEHA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S83394; AAB50848.1; .. P06213; 1IRK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SM00060;
SM00261;
SM00219;
                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d and this statement is not remove requires a license agreement (S an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
929
950
994
1000
1028
1148
1174
                                                                                                                                                                                                                         51
97
137
278
483
599
599
665
665
711
711
732
733
816
816
                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; FN3; 3.
; FU; 1.
; TyrKc; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      928
949
1363
1283
1008
1028
1148
1148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
1363
 TDISTLTNGDQ---
                                                                                                                                                                                                                         51
97
137
278
483
599
665
665
711
732
733
733
743
885
                                                                                                                                          3.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Receptor_tyr_kin_II.
Tyr_pkinase.
                                                                                                                                                                                                            154104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FnIII_repeat.
Furin-like.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Euk_pkinase.
FN_III.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EGFR_L.
                                                                                                                               60;
                                                                                                                             Score 119; DB Pred. No. 2.1; 50; Mismatches
                                                                                                                                                                                                             Ξ
Έ
                                                                                                                                                                                                                                                                        N-LINKED
N-LINKED
                                                                                                                                                                                                                                                                                                                        N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                     N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                     N-LINKED
                                                                                                                                                                                                        N-LINKED
                                                                                                                                                                                                                                                                                                                                                        N-LINKED
                                                                                                                                                                                                                                                                                                                                                                       N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATP (BY SIMIL BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INSULIN-LIKE PEPTIDE CHAIN (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                          N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INSULIN-LIKE PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PHOSPHORYLATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROTEIN KINASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EXTRACELLULAR (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BY SIMILARITY). (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (POTENTIAL
                                                                                                                                                                                                                                                     GELCHAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (See http://www.isb-sib.ch/announce/
                                                                                                                                              .1;
                                                                                                                                                         1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (AUTO-)
                                                                                                                                                         Length 1363;
                                                                                                                                                                                                             CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RECEPTOR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RECEPTOR,
                                                                                                                                                                                                                       (POTENTIAL)
                                                                 -ITD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALPHA-
Ε
                                                                                                                             Gaps
                               188
                                                                                             128
 480
                                                                 458
                                                                                                                               23;
```

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                   CHI1_BACCI STAN
P20533;
01-FEB-1991 (Rel. 1
01-FEB-1991 (Rel. 1
01-FEB-1995 (Rel. 3
  use by modified
                                                                                    J. Biol. Chem. 268:18567-18572(1993).

-I- CAPALYTIC ACTIVITY: Hydrolysis of the 1,4-beta-linkages acetyl-D-glucosamine polymers of chitin.

-I- SIMILARITY: CONTAINS 2 FIBRONECTIN TYPE III-LIKE DOMAIN:
-I- SIMILARITY: BELONGS TO CHITINASE CLASS II (FAMILY 18 OF
                                                                                                                                                                                                                                                                                                                                                                                        Bacillus circulans.
Bacteria; Firmicutes; Bacillus/Staphylococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BACCI
                          the
                                                  This
                                                                                                                                                 chitinase Al of Bacillus chitinase activity.";
                                                                                                                                                                                      Watanabe T., Kohori K
Uchida M., Tanaka H.;
                                                                                                                                                                                                                             STRAIN-WL-1
                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                           Chitinase
                                     between
                                                                                                                                                                                                                                                                                          its
                                                                                                                                                                                                                                                                                                                   Watanabe
                                                                                                                                                                          "Identification of glutamic
                                                                                                                                                                                                               MEDLINE-93366760;
                                                                                                                                                                                                                                       MUTAGENESIS
                                                                                                                                                                                                                                                                                                                             MEDLINE=90368776; PubMed=2203782;
                                                                                                                                                                                                                                                       2
                                                                                                                                                                                                                                                                                                       'Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               189
                                                                                                                                                                                                                                                                 Biol.
                                                                                                                                                                                                                                                               anabe T., Suzuki K., Oyanagi W., Ohnishi K., Tanaka H.; ne cloning of chitinase Al from Bacillus circulans WL-12 evolutionary relationship to Serratia chitinase and to thomology units of fibronectin."; Biol. Chem. 265:15659-15665(1990).
           European Bioinformatics Institute.
by non-profit institutions as lo
                                                                           HYDROLASES)
          SWISS-PROT entry is copyright. It is produced through a collab
een the Swiss Institute of Bioinformatics and the EMBL outst
European Bioinformatics Institute. There are no restrictions
by non-profit institutions as long as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    K-YKRQQEDVAEMEQREYCKGGLKPHRPTQGLEDIVNNEEEPNNSTIGDGTC----CECP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WLNNLADWRYVVDSEQWINFTNDTTYYVRIRVLRPTYDVPDPTEGLVRTVSDYRLTYKAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GSAVELARTQAD----DSAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NPGYERTRDLPDYTGIRDSFD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KSEDEIRIEEEEAAFQQEFENFLHNNVYHKRENETRAGRRRRELPVTARPFYSNQTVNVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EGFALERYDPNDGSWTDFASAG-----DTVTFRQVAVDEVVVTNNPAGGGSAPTFTVRVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGAREGSGAKSDIVYARTDADKPTHPQDVVVYSNSSNTLIITWKPPNR--PNGNVTHYIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCEANMPTLVDQGF-WIGGQYALTPTSLPQYDVSEAYALHTLTFARPSSAAAL---AFVW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGLPOGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LPSTNRTVPPTPTPNPNPQLETTVWNEHM--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----EDQGIDEYDGQDACGNTEWKEFDVSPTQTAHIITGLKPWTQYALLVKTYTK
  non-profit
and this st
                                                                                                                                                                                                                                                                                                                                                                                                                                         A
                                                                                                                                                                                                                                                                                                                                                                                                                                           precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----ANNPKIEQSLLKETLGCYLVHSKMRN---PVFQLTPASSFGAVSFN
                                                                                                                                                                                                                                                                                                                                                                                                                           . 17, Createu,
1. 17, Last sequence u
1. 31, Last annotatior
ecursor (EC 3.2.1.14)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                  PubMed=8103047;
ri K., Miyashita
                                                                                                                                                                                                                                                                                                                                                                                         Bacillus/Clostridium us group; Bacillus.
                                                                                                                                                                                                                                                                                                                                                                                        group;
                                                                                                                                                              nic acid 204 and circulans WL-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAYTNTVFRNTLLETRPSSRRLELPMPPADF - - GQTV - - -
                                                                                                                                                                                                                                                                                                                                                                                                                                           annotation 3.2.1.14).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -TAPAGTPAWEQASSGGYLTWRHNGTTFPAGSVSYVLP
                                                                                                                                                                                                   ×.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                     on update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -VVLTGLRHFSEYIIEVIACNADAAVGCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     699
                                                                                                                                                                                                   Fujii T.,
                                                                                                                                                              as essent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ĀΑ
                                                                                                                                                                                                                                                                                                                                                                                                     group;
                                                                                                                                                                essential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PDPRDLLSYTVS-YRET----
                                                                                                                                                                                                    Sakai H.,
                                                                                                                                                                           acid
bу
                                                                                    DOMAINS.
                                                                                                                                                              residues
                                                                                                                                                                           200 in
                                                                                                                                                                                                                                                                                          the
                                                                                                                          of
                                                                                                                                                                                                                                                                                                      revealed
                                                                                     GLYCOSYL
                                     collaboration
                                                                                                                                                                for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    738
             no
           way
                          its
```

```
20
                                                                                В
                                                                                                                      Ş
                                                                                                                                                                   D
                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                        엉
                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SO THE TENT OF THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Sim
Matches 114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACT_SITE
MUTAGEN
MUTAGEN
MUTAGEN
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam; PF02839; CBD_7; 1.
Pfam; PF00041; fn3; 2.
Pfam; PF00704; Glyco_hydro_18;
PFINTS; PR00014; ENTYPEIII.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SMART; SM00495; ChtBD3; 1. SMART; SM00060; FN3; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro;
622
                                      583
                                                                                                                          524
                                                                                                                                                                     531
                                                                                                                                                                                                             464
                                                                                                                                                                                                                                                        477
                                                                                                                                                                                                                                                                                                  413
                                                                                                                                                                                                                                                                                                                                             417
                                                                                                                                                                                                                                                                                                                                                                                       373
                                                                                                                                                                                                                                                                                                                                                                                                                               365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A38368; A38368.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCEANMPTLVDQGFWIGGQYALTPTSLPQYDVSEAY---ALHTLTFARPSSAAALAFVWA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DWRYVV-----DSEQWINFTNDTTYYVRIRVLRPTYDVPDPTEGLVRTVSDYRLTYKAI
                                      FAANMLSSVLKSEATSSI -- IKSVGET -- - AVGAAQSGLAKLPGLLMSVPGK
                                                                                                                                                                                                             MRNPVFQLTPASSFGAVSFNNPGYERTRDLPDYTGIRDSFDQNMSTAVAHFRSLSHSCSI
                                                                                                                                                                                                                                                        TANSVTLAWNASTDNVGVT----
                                                                                                                                                                                                                                                                                                  FRNTL-LETRPSSRRLELPMPPADFGQTVANNPKIEQSLLKETL-----GCYLVHSK
                                                                                                                                                                                                                                                                                                                                                                                                                               WEAGSFDFYDLEANYINKNGYT--RY----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FPAGS----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GVPDANTFNVAAGAQGHLDAGVPAAK,LVLGVPFYGRGWDGCAQAGNGQYQTCTGGSSVGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELAKIAAIVD--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DWEYPVSGGLDGNSKRPEDKQNYTLLLSKIREKLDAAGAVDGKKYLLTIASGASATYAAN
FTVKAKDAAGNVSAASNAVSVKTAAETTNPGVSAWQVNTAYTAGQLVTYNGK
                                                                                                                        VTKTYQGWEGVTNVNTPFGQFAHAGLLKNEEILCLADDLATRLTGVYPATDNFAAAVS-A
                                                                                                                                                                     AKDAAGNLSAASNAVTVS
                                                                                                                                                                                                                                                                                                                                          YKTAYIKSKGLGGAMFWELSGDRNKTLQNKLKADLPTGGTVPPVDTTAPSVPGNARSTGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            M57601;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PS01095;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IPR003610; Chitin_bind3
IPR001579; Chitinase_2.
IPR003961; FN_III.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IPR003962; FnIII_repeat.
IPR001223; Glyco_hydro_18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Glycosidase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            465
465
200
200
200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAA81528.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----APAGTPA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VSYVLPEGFALERYDPNDGSWTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHITINASE_18; idase; Chitin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               699
460
549
644
204
200
200
200
73677
                                                                                                                                                                                                                                                                                                                                                                                   VTFRQVAVDEVVVTNN-----PAGGGSAPTFTVRVP-PSNAYTNTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -WI-----NIMTYDFNGAWQKISAHNAPLNYDPAASA----A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CHITINASE A1.

CATALITIC.

FIBRONECTIN TYPE-III (R-1).

FIBRONECTIN TYPE-III (R-2).

PROTON DONOR (PROBABLE).

D-NI: DECREASE IN ACTIVITY.

D-SE: NO CHANGE IN ACTIVITY.

E->D,Q: LOSS OF ACTIVITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 115.5; I
Pred. No. 1.4;
54; Mismatches
                                                                                                                                                                                                                                                        -GYNVYNGANLATSVTGTTATISGLTAGTSYTFTIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 degradation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            : 115.5; D
No. 1.4;
                                                                                                                                                                                                                                                                                                                                                                                                                               -WNDTAKVPYLYNASNKRFISYDDAESVG
                                                                                                                                                                   TTAQPGGDTQAPTAPTNLASTAQTTSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -WE---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       http://www.isb-sib.ch/announce/
                                                                                LATTYTGTTATISGLAADTSYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QASSGGYLTWRHNGT--T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels 157;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----FASAGDT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Repeat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                  463
                                                                                                                                                                                                                                                                                                                                             476
                                                                                                                                                                                                                                                                                                                                                                                       412
                                                                                                                                                                                                                                                                                                                                                                                                                                  416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                248
                                                                                                                          582
                                                                                                                                                                                                             523
                                                                                                                                                                                                                                                        530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25;
```

```
S
                                                        В
                                                                                      õ
                                                                                                                           В
                                                                                                                                                         Ş
                                                                                                                                                                                               В
                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 123; Conser
                                                                                                                                                                                                                                                                                                                                                                      CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-JUL-1999 (Rel. 38, Created)
15-JUL-1999 (Rel. 38, Last sequence update)
15-JUL-1999 (Rel. 38, Last annotation update)
Agglutinin-like protein ALA1 precursor (Agglutinin-like
ALA1 OR ALS5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cell ac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  _CANAL
_CANAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene, ALA1, that confers adherence properties upon Saccharc cerevisiae for extracellular matrix proteins."; Infect. Immun. 65:5289-5294(1997).

-i- FUNCTION: MAY PLAY A ROLE IN ADHESION AND PATHOGENESIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-98053977; PubM. Gaur N.K., Klotz S.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Candida albicans (Yeast).
Eukaryota; Fungi; Ascomycota;
Saccharomycetales; mitosporic
                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Expression, cloning, and characterization of a Cargene, ALA1, that confers adherence properties upon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 013368;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                     159
                                                        250
                                                                                          103
                                                                                                                            190
                                                                                                                                                                                                 139
                                                                                                                                                               87
                                                                                                                                                                                                                                  99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PTM: N-GLYCOSYLATED AND O-GLYCOSYLATED (POTENTIAL).
SFPMFRTAYVAVANVENKEMSLDVVNDLIEWLNNLADWRYVVDSEQWINFINDTTYYVRI
:: | : : | : | | |
                                                                                                                         MPSLNKIATLYVAPQCENGYTSGTMGFSTSYGDVAIDCSNVHIGISKGVNDWNHPVTSES
                                                                                                                                                                                                                              TGROVSPPDN--FTAAAQDLAQSLDANTVTFPANISSMPEFRNWAKGKID------
                                                      FSYTKSCSSFGISITYQNVPAGYRPF-IDAYIS------PSDNNQYQLS--
                                                                                                                                                                                               TGSSVDLEDSKCFTAG-----TNTVTFNDGSKKLSIAVNFEKSTVDQSGYLTTSRF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          adhesion;
                                                                                          -GATESARAVG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AF025429;
                                                                                                                                                                                                                                                                                                                                                                        719
749
787
787
869
875
901
1216
665
919
1301
1301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18
399
408
437
673
687
700
                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAB88883.1;
                                                                                                                                                                                                                                                                                                                                                                                                          1419
404
418
441
676
690
703
724
752
791
883
911
1221
1221
                                                                                                                                                         ------LDSDSIGWYFKYLDPA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PubMed=9393828
                                                                                        EYSKIPDGLVKFSVDAEIREIYNEECPVVTDVSVPLDGRQWSLSIF
                                                                                                                                                                                                                                                                                 3.48;
                                                                                                                                                                                                                                                                                                                                                        149635
                                                                                                                                                                                                                                                                                                                                                  AGGLUTININ-LIKE PROTEI
POLY-THR.
POLY-THR.
POLY-SER.
POL
                                                                                                                                                                                                                                                                 90;
                                                                                                                                                                                                                                                               Score 115; DB
Pred. No. 4.3;
90; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Repeat; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Saccharomycotina; Saccharon Saccharomycetales; Candida
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1419
                                                                                                                                                                                                                                                                                 4.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ζ
                                                                                                                                                                                                                                                                  249;
                                                                                                                                                                                                                                                                                                 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROTEIN ALA1
                                                                                                                                                                                                                                                                                               Length 1419;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Candida albicans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Saccharomycetes;
                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                    (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Saccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             adhesin)
                                                                                                                                                                                                                                                                  232;
                                                                                                                                                                                                                                                                 Gaps
                     218
                                                        291
                                                                                      158
                                                                                                                         249
                                                                                                                                                             102
                                                                                                                                                                                                                                86
                                                                                                                                                                                                                                                                  26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
 CARBOHYD
SEQUENCE
                                                                    Coat protein;
                                    CARBOHYD
                                                                                                                         InterPro;
```

A24299; VCPV19

PF00740;

IPR001403; Parvo\_coat

Parvo\_coat;

Glycoprotein.

ΑĄ;

¥.

184 220 293 86015

N-LINKED (GLCNAC...
N-LINKED (GLCNAC...
N-LINKED (GLCNAC...
N-LINKED (GLCNAC...
BC6254DBD0576B07

(GLCNAC...)
(GLCNAC...)
(GLCNAC...)

(POTENTIAL). (POTENTIAL).

(POTENTIAL)

```
RESULT 7
COAT_PAVHB
ID COAT_PACE
AC P07299
DT 01-APR
OC NCBLIN
RX MEDLIN
RX COAT PIR
DR PIR
DR PIR
DR PIR
DR PIR
PT CARBOH
FT 
                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EM the European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entitles requires a license agreement (See http://www.isb-s or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN-ISOLATE AU;
MEDLINE-86200451; PubMed-3701931;
Shade R.O., Blundell M.C., Cotmort
Shade R.O., Blundell M.C., Cotmort
"Nucleotide sequence and genome of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-APR-1988 (Rel. 07, Created)
01-APR-1988 (Rel. 07, Last sequence up
01-APR-1990 (Rel. 14, Last annotation
Probable coat protein VP1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human parvovirus B19.
Viruses; ssDNA viruses;
                                                                                                                                                                                                                                                                                     EMBL; M13178; AAA66867.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             J. Virol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           isolated from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID=10798;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LTGVYPATDNFAAAVSAFAANMLSSVLKSEATSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      _PAVHB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STGL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NMSTAVAHFRSLSHSCSIVTKTYQGWEGVTNVNTPFGQFAHAGLLKNEEILCLADDLATR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTETITNGPEGTDSVIVREPHNPTVTTTEFWSESYATTETITTGPLGTDSIVIHDPLEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TVFRNTLLETRPSSRRLELPMPPADFGQTVANNPK-IEQSLLKETLGCYLVHSKMRNPVF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EQASSGGYLTWRHNGTTFPAGSVSYVLPEGFALERYDPNDGS-----WTDFASAGDTVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TKFWSESYATT------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FRQVAVDEVVV-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SES----FTSTTTITNSLKGTDSVIVRE-----PHNPTVTTTEFWSESFATTETIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SKPEGTDSVIVREPHNPTVTTTEFWSESYATTETITNGPEGTDSV---IVREPHNPTVTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IGETATVIVDVPYHTTTTVTSEWTGTITTTTRTNPTDSIDTVVVQVPSPNPTTTTQFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VIVATTRTVTDSTTA-VTTLPENPSVDKTKTIEILQPIPTTTITTSYVGVTTSYSTKTAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RVLRPTYDVPDPTEGLVRTVSDYRLTYKAITCE--ANMPTLVDQGFWIG-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---YKNDYTCVDDY--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -GQYALTPTSLPQYD----VSEAYALHTLTFARPSSAAALAFVWAGLPQGGTAPAGTPAW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       58:921-936(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TSSESSTVSSYDSDSSSSIESSTLSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              lundell M.C., Cotmore S.F., Tattersall P., Astell C squence and genome organization of human parvovirus the serum of a child during aplastic crisis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ·AIESSDSNISSSAQ··ESSSSVEQ---SSSIVGLSSSSDIPLSSDMPSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             в19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Parvoviridae; Parvovirinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----AVSFNNPGYERTRDL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -ETITNKPEGTDSVIVKEPYNPTVTTTEFWSESY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                   (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----WQHAPFTLKWTGYKNSDAGSNGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -TNNPAGGGSAPTFTVRVPPSNAYTN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Erythrovirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -PDYTGIRDSFDQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                    and for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ۵
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                 'n
                                                                                                                                                                                                                                                                                                                                                                                                                    commercia]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .R.;
В19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     384
                                                                                                                                                                                                                                                                                                                                                                                                                                                 on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
```

```
SACENCE STATE OF STAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ₽.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ouery Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                               Q55242;
15-DEC-1998 (Rel. 3
15-DEC-1998 (Rel. 3
15-DEC-1998 (Rel. 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRSL
                    STRAIN-ATCC 25975;
MEDLINE-93322332; PubMed-8331080;
Rathsam C., Giffard P.M., Jacques N.A.;
"The cell-bound fructosyltransferase of carboxyl terminus specifies attachment i
                                                                                                                                                                                       Streptococcus.
NCBI_TaxID=1304;
                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                             Bacteria; Firmicutes;
                                                                                                                                                                                                                                                                 Streptococcus
                                                                                                                                                                                                                                                                                                                      transferase)
                                                                                                                                                                                                                                                                                                                                                Levansucrase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SACB_STRSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GEYSKIPDGLVKFSVDAEIR----EIYNEECPVVTDVSVPLDGRQWSLSIFSFPMFRTAY 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VQVTDSTTGRLCMLVDHEYKYPYVLGQGQDTLAPELPIWVYFPPQYAYLTVGDVNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VGPGN----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GQLSDHPHALSSSSSHAEPRGENAVLSSEDLHKPGQVSVQLPG-----TNY 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HHWDTDKYVTGINAI - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RPSSRRLELPMPPADFGQTVANNPKIEQSLLKETLGCY-LVHSKMRNPVFQLTPASSFGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TPWRYLDFNALNLFFSPLEFQHLIENYGS---IAPDALTVTISEIAVKDV---TDKTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TSLPQYDVSEAYALHTLTFARPSSAAALAFVWAGLPQGGTAPAGTPAWEQASSGGYLTWR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GFQAQV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYYVRIRVLRPTYDVPDPTEGLVRTVSDYRLTYKAITCEANMPTLVDQGFWIGGQYALTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----TDNFAAAVSAFAANMLSSVLKSEATSSIIKSVGETAVGAA-----QSGLAKLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EDHAIQPQNFMPGPLVNSVSTKEGDSSNTGAGKALTGLSTGTSQNTRIS-LRPGPVSQPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MSYKFPPVPPENLEGCSQHFYEMYNPLYGSRLGVPDTLG------GDPKFRSLTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --GATFSANSVTCTFSRQFLIP-YDPEHHYKVFSPAASSCHNASGKEAKVCTISPIMGYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HNGTTFPAGSVSYVLPEGFALERYDP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PEVPAYNASEKYPSMT-----SVNSAEASTGAG---GGGSNSVKSMWSE------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VAVANVENKEMSLDVVNDLIEWLNNLADWRY - - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -SCSIVTKTYQGWEGVTNVNTPFGQFAHAGLLKNEEILCLADDLATRLTGVYPA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                               (Rel. 37, Created)
(Rel. 37, Last sequence update)
(Rel. 37, Last annotation update)
precursor (EC 2.4.1.10) (Beta-D-fructofuranosyl
(Sucrose 6-fructosyl transferase).
                                                                                                                                                                                                                                                                    salivarius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -ELQAGPPOSAVDSAARIHDFRYSQLAKLGINPYTHWTVADEELLKNIKNET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3.4%;
                                                                                                                                                                                                                                             Bacillus/Clostridium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----NPGYERTRDLPDYTGIRDSFDQNMSTAVAHFRSLSH 519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----NDGSWTDFASAGDTVTFRQVAVDEVVVTNNPAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; Score 113.5;
; Pred. No. 2.3;
51; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -VKDY-FTLKG----AAAPVAHFQG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----SAPTETVRV--PPSNAYTNTVFRNTLLET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        969
                         'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SHGQTTYGNAEDKEYQQGVGRFP
                      Streptococcus salivarius: in a Streptococcus gordoni
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            group;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                191;
                                                                                                                                                                                                                                          Streptococcaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                287;
                      gordonii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       365
```

```
RPN ACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SET TO DESCRIPTION OF THE RESERVE OF
                                                                                                                                                                                                                                                                                                                                                                                      GUXB_CELFI
                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                   01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence update)
01-OCT-1996 (Rel. 34, Last annotation update)
Exoglucanase B precursor (EC 3.2.1.91) (Exocellobiohydrolase
                                                                                                                                                                                                                                                                                                                               GUXB_CE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             J. Bacteriol. 175:4520-4527(1993).

-!- CATALYTIC ACTIVITY: SUCROSE + (2,6-BETA-D-FRUCTOSYL)(N)

-!- GLUCOSE + (2,6-BETA-D-FRUCTOSYL)(N+1) (OTHER SUGARS CAN
ALSO ACT AS FRUCTOSYL ACCEPTORS).

-!- SUBCELLULAR LOCATION: SECRETED. CELL-WALL BOUND.

-!- SIMILARITY: BELONGS TO FAMILY 68 OF GLYCOSYL HYDROLASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHAIN
                                                Actinomycetales;
NCBI_TaxID=1708;
                                                                                                         Bacteria; Firmicutes;
                                                                                                                                   Cellulomonas fimi.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
  SEQUENCE
                                                                                                                                                               CBHB OR CENE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Transferase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; L08445; AAA71925.1; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro; IPR003469; Glyco_hydro_68.
Pfam; PF02435; Glyco_hydro_68; 1.
Transferase; Glycosyltransferase; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97
                                                                                                                                                                                                                                                                                                                                                            CELFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KYLDPAGATESARAVGEYSKIPDGLVKFSVDAEIREIYNEECPVVTDVSVPLDGRQWSLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PTNTVKEESVTET - - - - - - EAPKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YTNTVFRNTLLETRPSSRRLELPMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TPFPYYGDHSNDNNSSNDHHVAVPVKPSTGDSVGDRRPVAQAAEIATPVPKTIVATGPTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TDFASAGDTVTFRQVAVD-EVVVTNNPAGGGS------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KKADKPETPVSPTEG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APAGTPAWEQASSGGYLTWRHN------GTTFPA-GSVSYVLPEGFALERYDPNDGSW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVDQGFWIGGQYALTPTSLPQYD----VSEAYALHTLTFARPSSAAALAFVWAGLPQGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RYVVDSEQWINFTNDTTYYVRIRVLRPTYDVPDPTEGLVRTVSDYRLTYKAITCEANMPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YYAVPVEGSSDTLLVTSYMTNRGGIAGAENKSTWAPSFLIKMNADDTTEVLPKMTNQGDW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IFSFP-----MFRTAYV----AVANVENK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KSTDAEGTVAAREAVGD-DVVMLGFVSDSLRGKYRPLNGS--GVVLTASVPADWRTSTYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------GYGLKPHTYPTVDGSTGVSEAHGVLTVT-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IWDKSSESLVHVGDQNSAKL-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         81;
  FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
  N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AA;
                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                             Micrococcineae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         103983 MW; D389B5B32ACF735A CRC64
  AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3.38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----NHSVDDKTNKPGTSKPADNNQPSADKEDKPTNPTNPDSPAR
                                                                                                   Actinobacteria;
SEQUENCE OF 456-461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      47; Mismatches 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 113; DB Pred. No. 3.4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LEVANSUCRASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----PNE-----DFNVDYYAVS
                                                                               Cellulomonadaceae;
                                                                                                                                                                                                                                                                                                                                                            1090
                                                                                                         Actinobacteridae,
                                                                                                                                                                                                                                                                                                                                                            AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -EMSLDVVNDLIEWLNNLADW 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APTFTVRVPPS-----NA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            wall
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                               Cellulomonas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -VKDGKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              . . . . . . .
                                                                                                                                                                                                                      в)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               256
```

17;

22.2%;

Pred.

```
Interpro; IPR003961; FN_III.
Interpro; IPR003961; FN_III.
Interpro; IPR003962; FNIII_repeat.
Interpro; IPR003963; Glyco_hydro_48.
Pfam; PF00553; CBD_2; 1.
Pfam; PF00041; fn3; 3.
Pfam; PF02011; Glyco_hydro_48; 1.
PRINTS; PR00014; FNTYPEIII.
PRINTS; PR00014; GLHYDRLASE48.
PRODOm; PE0011903; Glyco_hydro_48; 1.
DOMAIN
ACT_SITE
DISULFID
SEQUENCE
                                                                                                   DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Stereochemical course of hydrolysis catalysed by cellulomonas fimi CenE, a member of a new family of beta-1,4-glucanases.";
Blochem. Blophys. Res. Commun. 199:1223-1228 (1994).

1- FUNCTION: HYDROLYSE CELLOHEXAOSE TO A MIXTURE OF CELLOTETRAOSE, CELLOTETRAOSE, WITH ONLY A TRACE OF GLUCOSE. IT HYDROLYSES CELLOPENTAOSE TO CELLOTETROSE AND CELLOBIOSE, AND CELLOTETRAOSE TO CELLOFICES. BUT IT DID NOT HYDROLYSE CELLOTRIOSE. HAS ALSO WEAK ENDOGLUCANASE ACTIVITY. HYDROLYSES GLUCOSIDIC BONDS WITH INVERSION OF ANOMERIC CONFIGURATION.

1- CAPALYTIC ACTIVITY: Hydrolysis of 1,4-beta-D-glucosidic linkages of the state of t
                                                                                                                                                                                                                                       SMART; SM00060; FN3; 3.
PROSITE: BEACE; SM3; 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-93209933; PubMed-8458833;
Meinke A., Gilkes N.R., Kilburn D.G., Miller R.C.
"Cellulose-binding polypeptides from Cellulomonas
D (CenD), a family A beta-1,4-glucanase.";
J. Bacteriol. 175:1910-1918(1993).
                                                                                                                                                              CHAIN
                                                                                                                                                                                                                     Cellulose
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; L38827; AAB00822.1; -. HSSP; P07986; 1EXG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Warren R.A.J., Miller R.C. Jr.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-94197708; PubMed-8147863;
Shen H., Tomme P., Meinke A., Gilkes N.R., Kilburn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-96003898; PubMed-7575482;
Shen H., Gilkes N.R., Kilburn D.G., Miller R.C. Jr.,
"Cellobiohydrolase B. a second exo-cellobiohydrolase
cellulolytic bacterium Cellulomonas fimi.";
                                                                                 DOMAIN
                                                                                                                                                                                PROPEP
                                                                                                                                                                                                     SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entitles requires a license agreement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    send
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in cellulose and cellotetrasse, releasing cellobiose fro
reducing ends of the chains.
SIMILARITY: CONTAINS 3 FIBRONECTIN TYPE III-LIKE DOMAINS
SIMILARITY: CONTAINS 1 BACTERIAL-TYPE CELLULOSE-BINDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HYDROLASES)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (CBD)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SWISS-PROT entry is copyright.
een the Swiss Institute of Bio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  an email to license@isb-sib.ch).
                                                                                                                                                                                                                       degradation;
                                        34
54
54
700
794
891
989
513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       54-75.
    ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BELONGS TO
                                                                                                                                                                                                       N3; 3.
CBD_BACTERIAL; 1.
CBD_BACTERIAL; 1.
CBD_BACTERIAL; 1.
                                          53
1090
699
785
784
884
978
1090
                      1089
    114829
                                          EXOGLUCANASE B.
CATALYTIC (BY SIMILARITY).
FIBRONECTIN TYPE-III 1.
FIBRONECTIN TYPE-III 2.
FIBRONECTIN TYPE-III 3.
FIBRONECTIN TYPE-III 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CELLULASE FAMILY L
    MW;
                                      NUCLEOPHILE (BY SI
                                                                                                                                                                                                     POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ght. It is produ
Bioinformatics
                      SIMILARIT
    046BB9D956F2F399 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             long
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  produced through
                                        SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (FAMILY 48
                                                                                                                                                                                                                     Repeat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Jr., V
fimi:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         уd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Warren
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             restrictions
                                                                                                                                                                                                                     Signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Warren R.A.J.;
endoglucanase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GLYCOSYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R.A.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 collaboration -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             commercia]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          non-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             its
```

Query Match

ω \$0

Score

112;

DB

1;

Length 1090;

```
RESULT 10
   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                          P16271;
01-APR-1990
01-APR-1990
01-NOV-1995
                                         MEDLINE-88149035; PubMed-3278687;
Kok J., Leenhouts K.J., Haandrikman A.J., Ledeboer A.M.,
"Nucleotide sequence of the cell wall proteinase gene of
Streptococcus cremoris Wg2.";
Streptococcus cremoris Hg2.";
Appl. Environ. Microbiol. 544:331-238(1988).
-1- FUNCTION: PROTEASE WHICH BREAKS DOWN MILK PROTEINS DU
GROWTH OF THE BACTERIA ON MILK.
-1- CATALYTIC ACTIVITY: ENDOPERTIDASE ACTIVITY WITH VERY
                                                                                                                                                                                                                                                                                     PRTP
                                                                                                                                                                                                                                                                                                               PI-type proteinase
                                                                                                                                                                                                                                                                                                                                                                                       P1P_LACLC
                                                                                                                                                                   STRAIN-WG2;
                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                         NCBI_TaxID=1359;
                                                                                                                                                                                                                                         Bacteria;
                                                                                                                                                                                                                                                    Plasmid pwv05
                                                                                                                                                                                                                                                                                                  proteinase).
                                                                                                                                                                                                                                                                      Lactococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                               974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity 22.:
hes 130; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      39
SPECIFICITY, ALTHOUGH SOME SUBSITE PREFERENCE HAVE BEEN NOTED. E.G. LARGE HYDROPHOBIC RESIDUES IN THE P1 AND P4 POSITIONS, AI PRO IN THE P2 POSITION. BEST KNOWN FOR ITS ACTION ON CASEINS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LVKFSVD-AEIREIYNEECPVVTDVSVPLDGRQWSLSIFSFPMFR----TAYVAVANVEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HFRSLSHSCSIVTKTYQ------GWEG-----VTNVNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DVYR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVHSKMRNPVFQLTPASSFGAVSFNNPG-----YERTRDLPDYTGIRDSFDQNMSTAVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SNAYTNTVFRNTLLETRPSSRRLELPMPPADFGQTVANNPKIEQSLLKET-----LGCY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EGFALERYDPNDG-----SWTDFASAGDTVTFRQVAVDEVVVTNNPAGGGSAPTFTVRVPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GNVSAPS - - AALTVTTKATPSDTTAPSVPAITSSSSTANSVTIGWSASTDNAG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VTSTEAT I SWTASTDDTRVTGYDVYRGATKVGTATTTSFTDTGLTASTAYAYTVRAFDAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RTVSDYRLTYKAITCEANMPTL-VDQGFWIGGQYALTPTSLPQYDVSEAYALHTLTF---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KEMSLDVVNDLIEWLNNLADWRYVVDSEQWINFTNDTTYYVRIRVLRPTYDVPDPTEGLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VIKPGVSFLDIRSFYKKD-PNWSKVQTFLDGG-----AEPQFRYHRFWAQTAVAGA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GKIDLDSDSIGWYFKYLDPAGATESARAVGEYSK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGRQVSPPDNFTAAA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           --- ARPSSAAALAFVWAGLPQGGTAPAGTPAWEQASSGGYLTWRHNGTTFPAGSVSYVLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGK----PDTWNAAAPTGNPGLTVEVTSYGQDVGVAADTARALLFYAAKSGDTASRDKAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -GSGLAGYDVYRGATRVAQTTALTFTDTGLTASTAYEYTVRARDVAGNVSAPSTAVSV--
                                                                                                                                                                                                                                        Firmicutes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               SAALSVTTKTPQTGGSCSVAYNASSWNSGFTASVRITNTGT
                                                                                                                                                                                                                                                                                                            (Rel. 14, Created)
(Rel. 14, Last sequence update)
(Rel. 32, Last annotation update)
teinase precursor (EC 3.4.21.-) (Wall-associated
                                                                                                                                                                                                                                                                     lactis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -TTKSDTTPDT---TAPSVPAGLAAMTVTETSVALTWNASTDTGGSGLKGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AIWANNQDPLGVS-AVETRGDYKRFDDTYVANGDGIYIPSGWTGTMPNGD
                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -GATRVGSTTTASYTDTGLTAATAYQYTVRATDNAG
                                                                                                                                                                                                                                                                   (subsp.
                                                                                                                                                                                                                                        Bacillus/Clostridium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LADYARLFDDG---TTTPDTT---
                                                                                                                                                                                                                                                                   cremoris)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55;
                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ed. No. 4.8;
Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -QDLAQSLD-ANTVTFPANISSMPEFRNWAK
                                                                                                                                                                                                                                                                                                                                                                                       1902
                                                                                                                                                                                                                                                                   (Streptococcus
                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                      group;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   219;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----APT--VPTGLQAGV
                                                                                                                                                                                                                                      Streptococcaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -IPDG-----
                                                                                                                                                                                                                                                                     cremoris)
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1014
                                                                            DURING
                                                                                                                                      Venema
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NVSAA--
                                                                                                                                                                                                                                                                                                               serine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                      G
::
                AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        973
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29;
```

```
Ş
                  밁
                                Qy
                                                  В
                                                                   Q
                                                                                       DЪ
                                                                                                       ρy
                                                                                                                            В
                                                                                                                                           Qy
                                                                                                                                                                В
                                                                                                                                                                              Qy
                                                                                                                                                                                                   B
                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                              ACT_SITE
ACT_SITE
ACT_SITE
                                                                                                                                                                                                                                                                                                                                         TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PROSITE;
                   1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00746; Gram_pos_anchor; Pfam; PF02225; PA; 1. Pfam; PF00082; Peptidase_S8; 3.
                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                  CHAIN
                                                                                                                                                                                                                                                                                                                                                                                     SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                        PRINTS; PR00723; SUBTILISIN.
PROSITE; PS00136; SUBTILASE_ASP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEROPS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; M24767;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entities requires a license agreement (See http://www.isb-sib
                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                           DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR001899; Gram_pos_anchor.
InterPro; IPR003137; pA.
InterPro; IPR003209; Peptidase_S8.
InterPro; IPR00746; Gram_pos_anchor; 1.
                                                                                                                                                                                                                                                                                                                                                                                                        Hydrolase;
                                                                                                                                                                                                                                                                                                                                                                            PROPEP
                                                                                                                                                                                                                                                                                                                                                                                             ransmembrane.
                                     267
                                                       962
                                                                                          915
                                                                                                           178
                                                                                                                             883
                                                                                                                                                                 836
                                                                                                                                                                                                     776
                                                                                                                                               119
                                                                                                                                                                                   84
                                                                                                                                                                                                                     38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ALTHOUGH IT HAS BEEN (INSULIN B-CHAIN.
SUBCELLULAR LOCATION:
SIMILARITY: BELONGS TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUBTILASE FAMILY.
SGG-
                                                                                        VDILDGQGNKVTTLSSSTNLTKTYYNAHSQQYIYYNAPAWDGTYY----
                                                                                                                            DDQAIAFSSDK -- NALYN ---
                                                                                                                                                              KIVDSLNGITY----SPAG-----GNEGTVPLLTNKNTGTQYYGGMVTDADGNQTV
                                                                                                                                                                                  KIDLDSDSIGWYFKYLDPAGATESARAVGEYSKIP---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SWISS-PROT entry is copyright. It is produced through a centre the Swiss Institute of Bioinformatics and the EMBL
                 QYYLTAEA--KDDLSGLDATKSVKTAINEVTNLDATFTDAGTTADGYTKIETPLSDEQAQ
                                  QYALTPTSLPQYDVSEAYALHTL-TFARPSSAAALAFVWAGLPQGGTAPAGTP-AWEQAS
                                                    RDGNIKTADDGSYTYRISGVPEGGDKROVFDVPFKLDSKAPTVRHVALSAKTENG---KT
                                                                       TEGLVRTVSDYRLTYK----
                                                                                                         MS-LDVVNDLIEWLN---NLADWRYVVDSEQWINFTN---DTTYYVRIRVLRPTYDVPDP
                                                                                                                                                                                                  KAGSNITVPAGKTAQIEFTLSLPKSFDQQQFVEGFLNFKGSDGSRLNLPYMGFFGDWNDG
                                                                                                                                                                                                                     RTGRQVSPPDNFTAAAQ----DLAQSLDANT-----VTFPA-----NISSMPEFRNWAKG
                                                                                                                                            -DGLVKFSVDAEIREIYNEECPVVTDVSVPLDGRQWSLSIFSFPMFRTAYVAVANVENKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P00782;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S08.019;
                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                PS00136;
PS00137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and this statement is not removed. Usage hw ar requires a license and
                                                                                                                                                                                                                                                                                                                                                                                                               PS00343;
                                                                                                                                                                                                                                                                                                                                                                                                                       PS00138;
                                                                                                                                                                                                                                                                                                     34
188
188
1877
1896
217
2217
281
620
1867
                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAA17677.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1801.
YLTWRHNGTTFPAGSVSYVLPEGFALERYDPNDGSWTDFASAGDTVTFR
                                                                                                                                                                                                                                                                                    AA;
                                                                                                                                                                                                                                                                                                                                                                                                            SUBTILASE_HIS; 1.
SUBTILASE_SER; 1.
GRAM_POS_ANCHORING;
                                                                                                                                                                                                                                                                                                     33
187
1902
1876
1876
1895
1902
217
281
620
1872
                                                                                                                                                                                                                                                                                                                                                                                                      protease;
                                                                                                                                                                                                                                                3.3%;
                                                                                                                                                                                                                                                                                    199910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ō
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SHOWN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Type I membrane protein.
O PEPTIDASE FAMILY S8; AL
                                                                                                                                                                                                                                                                                                  PI-TYPE PROTEINASE.

EXTRACELLULAR (POTENTIAL).

MEMBRANE ANCHOR (POTENTIAL).

CYTOPLASMIC (POTENTIAL).

CHARGE RELAY SYSTEM (BY SIMILARITY).

CHARGE RELAY SYSTEM (BY SIMILARITY).

CHARGE RELAY SYSTEM (BY SIMILARITY).

CONSERVED IN GRAM-POSITIVE COCCI SURFACE
                                                                                                                                                                                                                                       63;
                                                                                                                                                                                                                                                                                    MΨ;
                                                                                                                                                                                                                                                                                                                                                                                                      Cell wall;
                                                                                                                                                                                                                                                 Pred. No.
                                                                                                                                                                                                                                                        Score 111;
                                                                                                                                                                                                                                                                                             PROTEINS
                                                                                                                            DISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ō
                                                                      -----VDQGFWIGG
                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                       2901C7F19B2E5D0B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HYDROLYSE HEMOGLOBIN AND OXIDIZED
                                                                                                                                                                                                                                                 13;
                                                                                                                                                                                                                                                                                                                                                                                                     Zymogen;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     There are no restrictions
                                                                                                                                                                                                                                                         DВ
                                                                                                                                                                                                                                       210;
                                                                                                                                                                                                                                                        ۲,
                                                                                                                                                                                                                                                        Length 1902
                                                                                                                                                                                                                                                                                                                                                                                                      Signal; Plasmid;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALSO KNOWN
                                                                                                                                                                                                                                       Indels 176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cell
                                                                                                                            -KYYLLRNISNVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             wall
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .ch/announce/
                                                                                       ģ
                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     commercial
                  1076
                                                     1018
                                                                                                                                                                                 118
                                                                                                                                              177
                                                                                                                                                                                                   835
                                                                                                                                                                                                                     83
                                                                                        961
                                                                                                         230
                                                                                                                            914
                                                                      266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             way
                                                                                                                                                                                                                                      31;
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
```

```
RESULT 11
GUNV_ERWCA
ID GUNV_E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   V_ELWYC...

GUNV_ERWCA
Q47096;
Q1-NOV-1997 (Rel. 35, Create)
01-NOV-1997 (Rel. 35, Last s
f 01-NOV-1997 (Rel. 35, Last s
                    CHAIN
DOMAIN
DOMAIN
DOMAIN
ACT_SITE
ACT_SITE
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1230
                                                                                                                                                                                      Prodom; PD001947; CBD_3; 1.

PROSTTE: PS00659; GLYCOSYL_HYDROL_F5;

PROSTTE: PS00659; GLYCOSYL_HYDROL_F5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1182
                                                                                                                                                             SIGNAL
                                                                                                                                                                                                                                     Pfam; PF00942; CBD_3; 1.
Pfam; PF00150; cellulase; 1.
                                                                                                                                                                                                                                                                                                                   EMBL; X76000; CAA53592.1; -. HSSP; O85465; 1A3H.
                                                                                                                                                                                                                                                                                                                                                                          entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                 use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mol. Gen. Gen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=94067016; PubMed=8246888;
Cooper V.J.C., Salmond G.P.C.;
"Molecular analysis of the major cellulase (CelV) of Erwinia carotovora: evidence for an evolutionary 'mix-and-match' of carotovora:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1132
                                                                                                                                                                              Cellulose
                                                                                                                                                                                                                                                                          HSSP; 085465; 1A3H.
InterPro; IPR001956; CBD_3.
InterPro; IPR001547; Glyco_hydro_F5
                                                                                                                                                                                                                                                                                                                                                                                                                                                        the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               domains.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pectobacterium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Erwinia carotovora
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=554;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linkages in cellulose.
SUBCELLULAR LOCATION: Secreted
SIMILARITY: BELONGS TO CELLULA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HYDROLASES).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CATALYTIC ACTIVITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OPTIMUM IS ABOUT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gen. Genet. 241:341-350(1993).
FUNCTION: ENDOGLUCANASE WITH SOME EXOGLUCANASE ACOPTIMUM IS ABOUT 7.0 AND THE TEMPERATURE OPTIMUM
                                                                                                                                                                                                                                                                                                                                                                                                                                 SWISS-PROT entry is copyright. It is produced through a collaboration sen the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEATIKVTGTVSADTKTVNVGDTVAALDAQHH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MPPADF-GQTVANNPKIEQSLLKETLGCYLVHSKMRNPVFQLTPASSFGAVSFNNPGYER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALGNGDNSAELYLTDNASNATDQDASVQKPGSTSFDL --- IVNGGGIPDKISS--TTTGY 1131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRDLPDYTGI - - RDSFDQNMSTAVAHFRSLSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VTNADYAAQVDLYADKAHTQLLKH-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EA-----NTQGGGTY-TFSGTYPAAVDGTYTNAQGKKHDLNTTYDAATNSFTASMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QVAVDEVVVTNNPAGGGSAPTFTVRVPPS--NAYTNTVFR----NTLLETRPSSRRLELP 430
Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Created)
                                                                                                                    Hydrolase; Glycosida
POTENTIAL.
ENDOGLUCANASE
CATALYTIC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Endohydrolysis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gamma subdivision;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   c sequence update)
c annotation update)
(EC 3.2.1.4) (Endo-1,4-beta-glucanase)
                      ¥,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CELLULASE FAMILY A (FAMILY 5
                  LINKER.
CELLUICOSE-BINDING (BY SIMILARITY).
PROTON DONOR (BY SIMILARITY).
NUCLEOPHILE (BY SIMILARITY).
; DBEA9337BB4D2623 CRC64;
                                                                                                                                                                              Glycosidase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -FDTKVR--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               519
                                                                                                                                                                                                                                                                                                                                                                                              (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of 1,4-beta-D-glucosidic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A
                                                                                                                                                                                                                                                                                                                                                                                                                 Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Enterobacteriaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACTIVITY. THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABOUT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of enzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GLYCOSYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          42
                                                                                                                                                                                                                                                                                                                                                                                                                     for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEGREES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1181
```

```
RESULT 12
FIGE_CAUCR
ID FIGE_C
AC P35806
DT 01-JUN
DT 30-MAY
DT 16-OCT
DE FLAGE 0
OS Caulob
OC Caulob
OC Caulob
OC STRAIL
RN 11]
RP SEQUEN
RA MULLII
RY "Orgar
RY "Orgar
RY "Orgar
RY SEQUEN
RA MILLII
RY MEDLII
RA NIETM
RA NIETM
RA POTOCI
RA UTLET
RA DEBOY
RA KOloni
RA CSAlzb
RT "COmp
RA SAlzb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       , B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οδ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                       SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN-ATCC 19089 / CB15;
Mullin D.A., Mullin A.H., Newton A.;
Mullin D.A., Mullin A.H., Newton of Caulobacter crescentus
"Organization and expression of the flagellar hook.";
for assembly and function of the flagellar hook.";
for assembly and function of the EMBL/GenBank/DDBJ database:
                Nierman W.C., Feidblyum T.V., Laub M.T., Paulsen I.T., Nelson K.E., Elsen J., Heidelberg J.F., Alley M.R.K., Ohta N., Maddock J.R., Potocka I., Nelson W.C., Newton A., Stephens C., Phadke N.D., Ely B., DeBoy R.T., Dodson R.J., Durkin A.S., Gwinn M.L., Haft D.H., Kolonay J.F., Smit J., Craven M.B., Khouri H., Shetty J., Berry K., Witterback T., Tran K., Wolf A., Vamathevan J., Ermolaeva M., White O. Salzberg S.L., Venter J.C., Shapiro L., Fraser C.M.; "Complete genome sequence of Caulobacter crescentus."; Proc. Natl. Acad. Sci. U.S.A. 98:4136-4141(2001).
                                                                                                                                                                                STRAIN-ATCC 19089 / CB15;
MEDLINE-21173698; PubMed-11259647;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     FLGE OR FLAK OR CC0902.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUN-1994 (Rel. 29, 30-MAY-2000 (Rel. 39, 16-OCT-2001 (Rel. 40,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FLGE_CAUCR
P35806;
                                                                                                                                                                                                                                                                                                                                                                                                   Caulobacter
                                                                                                                                                                                                                                                                                                                                                                                                                Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Caulobacter
                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=69394;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      469 NVNETNDYSYGANVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    153 WSLSIFSFPMFRTA--YVAVANVENKEMSLDVVNDLIEWLNNLA-----DWRYVVDSEQW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GIRDSFDQNMSTAVAHFRSLSHSCSIVTKTYQGWEGVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             V---FRNTLLETRPSSRRLELPMPPADFGQTVANNPKIEQSLLK------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VWAGLPQGGTAPAGTPAWEQASSGGYL----TW----RHNGTTFPAGSVSYVLPEGFALE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LIIVGTGTWSQDIHDAADNQLP--DPNTMYALHFYAGTHGQFLRDRIDYAQSRGAAIFVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WGINVFRVAMYTAADGYISNPSLANK-----VKEAVAAAQSLGVYIIIDWHILSDNDPN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VDWANVGPNNIVTSTGTPAASTDKANRYVLVTFSSGAGSLQPGAE-TGEVQVRIHAGDWS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ---ETLGCYLVHSKMRNPVFQLTPASSFGAVSFNN-----PGYERTRDLP-----DYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VVLQYRN--VDNNPSDDAIRMAVNIKNTGST----PIKLSDLQVRYYFHDDGKPGANLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PGASKSGGWTEQNLSTSGKFVR-----EQIRAGANLGGGDTPTTPTEPTNPGNGTTGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RYDPNDGSWTD--FASAGDTVTFRQVAVDEVVVTNNPAGGGSAPTF-TVRVPPSNAYTNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EW-----GTSDA-----SGNGGPFLPESQTWIDFLNNRGVSWVNWSLTDKSEASAALA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -TLVDQGFWIGGQYALTPTSLPQYDVSEAYALH------TLTFARPSSAAALAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IYKAQAKTFFAEMAGLYGSSPNVIYEIANEPNGGVTWNGQIRPYALEV-TDTIRSKDPDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFTNDTTYYVRIRVL----RPTYDVPDPTEGLVR---TVSDYRLTYKAITCEANMP--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                      crescentus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Last sequence up
Last annotation
n flgE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
                                                                                                                                                                                                                                                                                                                                                                                                                    alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 110.5;
Pred. No. 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                  subdivision;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -SYANWDKIT 492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       177;
                                                                                                                                                                                                                                                                                                                                                                                                                    Caulobacter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                           genes
                                                                                                                                                                                                                                                                                                                                                                                                                  group;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           505;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       125;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24;
```

```
밁
                       δÃ
                                                        밁
                                                                             Q
                                                                                                             B
                                                                                                                                      δÃ
                                                                                                                                                                   В
                                                                                                                                                                                          Qy
                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                       S
                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                  ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entropean Bioinformatics Institute. There are no restructed by non-profit institutions as long as its content modified and this statement is not removed. Usage by and entitles requires a license agreement (See http://www.isb-sor.send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF00460; flybb_rod; 1.
PROSITE; PS00588; FLAGELLA_BB_ROD; Flagella; Complete proteome.
SEQUENCE 591 AA; 61207 MW; FD41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL;
TIGR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene operon in Caulobacter crescentus.";
J. Mol. Biol. 186:107-115(1985).
-i- SIMILARITY: BELONGS TO THE FLAGELLA BASAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 1-52 FROM N.A. STRAIN-ATCC 19089 / CB15; MEDLINE-86089096; PubMed-4078896;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ohta N., Chen L.S., Swanson E., Newton A.; "Transcriptional regulation of a periodically
 436
                            497
                                                        386
                                                                                  454
                                                                                                               329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     [nterPro;
                                                                                                                                                                    289
                                                                                                                                                                                                                                                     284
                                                                                                                                                                                                                                                                                211
                                                                                                                                                                                                                                                                                                          224
                                                                                                                                                                                                                                                                                                                                      191
                                                                                                                                                                                                                                                                                                                                                                164
                                                                                                                                                                                                                                                                                                                                                                                           151
                                                                                                                                                                                                                                                                                                                                                                                                                       105
                                                                                                                                                                                                                                                                                                                                                                                                                                                  92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14 RRGTRNVRVSANTVTVNGRRNQRRRTGRQVSPPDNFTAAAQDLAQSLDAN------
 LGIDEQEVQIDLASAAGGLTQYNSQSVV-----
                         TGTRDSFDQNMSTAVAHFRSLSHSCSIVTKTYQGWEGVTNVNTPFGQFAHAGLLKNEEIL
                                                                                TLGCYLVHSKMRNPVFQLTPASSFG----AVSFNNPGYERTRDLP
                                                                                                            PDFEVQIPLSDSKGGQRTVTLSMLKGPGPNQWYAELRAKPGDLANN--GNGQISTGIIE-
                                                                                                                                       PTFTVRVPPSNAY -- TNTVFRNTLLETRPSSRRLELPMPPADFGQTVANNPKIEQSLLKE
                                                                                                                                                                    DLGIVNASGADDAEVVAGKLYDPSTWSMSDYAKDNSK----
                                                                                                                                                                                             SVSYVLPEG-----FALERYDPNDGSWTDFASAGDTVTFRQVAVDEVVVTNNPAGGGSA
                                                                                                                                                                                                                                                                               NYDVVYSSTGIANPVS-----GNNEYLVD----IKENGVIVATGKVAYD----
                                                                                                                                                                                                                                                                                                  TYDVPDPTEGLVRTVSDYRLTYKAITCEANMPTLVDQGFWIGGQYALTPTSLPQYDVSEA
                                                                                                                                                                                                                                                                                                                                                                                        --TVTFPANISSMPEFRNWAK-GKIDLDS-----DSIGWYFK-YL-------DPAGA 104
                                                                                                                                                                                                                                                   YALHTLTFARPSSAAALAFVWAGLPQGGTAPAGTPAWEQASSGGYLTWRHN--GTTFPAG
                                                                                                                                                                                                                                                                                                                                                             RTAYVAVANVENKEMSLDVVNDLIEWLNNLADWRYVVDSEQWINFTNDTTYYVRIRVLRP
                                                                                                                                                                                                                                                                                                                                                                                                                                               FVTTEKPENLTA-TDTRSFTRAGSFQLDNLGYLRNDAGLYLQGWLADPVSGLITPDPSDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             130;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AF072135; AAC33329.1; -. AE005767; AAK22886.1; -. M28551; AAA23042.1; -. CC0902; -.
                                                                                                                                                                                                                                                                                                                                      -VGTAGSPSK--
                                                     ·FTTDGKLKN-----TGSLFGTTSPTAITIKSSGYIAPTVTPPAVQPPTPPTWADA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IPR001444; Flag_bb_rod
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STLVTSGNKNQTYSAGGVKAQTHQF-ISQQGLTQSTTSNLDISISGAGF
                                                                                                                                                                                                                         -AATNELVSSTIDYKGASPV-----TGSMTTTRINAAGTTVNLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         76;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 109;
Pred. No. 3
                                                                                                                                                                                                                                                                                                                                   TNVVDSA----TNS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FD4EEA319479A161 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (See http://www.isb-sib.ch/announce/
-QSVNTNGTAFGNLTNIEIDEGGYVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nere are no restrictions as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             236;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BODY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    controlled
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ROD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL outstation
                                                                                                                                                                                                                                                                                                                                   Н-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 flagellar
                                                                                                                                                                    ----GVK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             220;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a collaboration -
                                                                                  ----DY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                commercia.
                                                                                496
                                                                                                                                         453
                                                                                                                                                                                              395
                                                                                                                                                                                                                                                                                                                                                                                                                     163
                                                                                                             385
                                                                                                                                                                                                                         288
                                                                                                                                                                    328
                                                                                                                                                                                                                                                   341
                                                                                                                                                                                                                                                                                                          283
                                                                                                                                                                                                                                                                                                                                   210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 63
                                                                                                                                                                                                                                                                             250
                                                                                                                                                                                                                                                                                                                                                              223
                                                                                                                                                                                                                                                                                                                                                                                           190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        its
```

```
RESULT 13
GUNN_ERRICA
ID GUNN_E
AC 059394
DT 01-NOV
DT 0
    밁
                                         QY
                                                                                            DЬ
                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               닭
                                                                                                                                                                                      Query Match
Best Local S
Matches 70
                                                                                                                                                                                                                                                                                                                               CHAIN
ACT_SITE
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                         Probom; PD001947; CBD_3; 1.

PROSITE; PS00659; GLYCOSYL_HYDROL_F5; 1.

Cellulose degradation; Hydrolase; Glycos
POTENTALL
31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR001956; CBD_3.
InterPro; IPR001547; Glyco_hydro_F5.
Pfam; PF00942; CBD_3; 1.
Pfam; PF00150; cellulase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            one multienzyme, which forms glucose. Biotechnology 14:71-76(1996).
-!- CATALYTIC ACTIVITY: Endohydrolysi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN-ATROSEPTICA FCBR C18; MEDLINE-98299944; PubMed-9636315; Olsen O., Thomsen K.K., Weber J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
Endoglucanase N precursor (EC 3.2.1.4) (Endo-1,4-beta-glucanase
                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; L39788; AAC37033.1; .. HSSP; O85465; 1A3H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bacteria; Proteobacteria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Erwinia carotovora.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  059394;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GUNN_ERWCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Transplanting two unique beta-glucanase catalytic activities one multienzyme, which forms glucose.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=554;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pectobacterium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           von Wettstein D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Cellulase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        610
                                                206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
    139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       489
                                                                                               85
                                                                                                                                                                                    Local Similarity 20.9 nes 70; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SWISS-PROT entry is copyright. It is produced through en the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GA
                                                                                                                                        WSLSIFSFPMFRTA--YVAVANVENKEMSLDVVNDLIEWLNNLA-----DWRYVVDSEQW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GA 611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AIFDNGVTRRIA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLADDLATRLTGVYPATDNFAAAVSAFA-ANMLSSV-----LKSEATSSIIKSVGETAV
IYKAQAKTFFAEMAGLYGSSPNVIYEIANEPNGGVTWNGQIRPYALEV-TDTIRSKDPDN
                                              INFTNDTTYYVRIRVL----RPTYDVPDPTEGLVR---TVSDYRLTYKAITCEANMP--
                                                                                            WGINVFRVAMYTAADGYISNPSLANK-----VKEAVAAAQSLGVYIIIDWHILSDNDPN 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             542
                                                                                                                                                                                                                                                                                                    32
168
256
444 /
                                                                                                                                                                                                                                                                                                         AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                               444
168
256
                                                                                                                                                                                                                                                                                                         48300 MW;
                                                                                                                                                                                                               3
20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----QVAIATFSNPNGLKGVNGNAYRVTNESGTYSLKAPSQGGA 540
                                                                                                                                                                                                            . 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Endohydrolysis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gamma subdivision;
                                                                                                                                                                                      48;
                                                                                                                                                                                    Score 108.5;
Pred. No. 2.3;
18; Mismatches
                                                                                                                                                                                                                                                                                                      ENDOGLUCANASE N.
PROTON DONOR (BY SIMILARITY).
NUCLEOPHILE (BY SIMILARITY).
FA7E4179004CBB43 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Duus
                                                                                                                                                                                                                                                                                                                                                                                                                         Glycosidase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             J.O., Svendsen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of 1,4-beta-D-glucosidic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             There are no restrictions ng as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AA
                                                                                                                                                                                                                                     DB
                                                                                                                                                                                      138;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Enterobacteriaceae;
                                                                                                                                                                                                                                  ۲,
                                                                                                                                                                                                                                                                                                                                                                                                                         Signal.
                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ι.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OF,
                                                                                                                                                                                                                                     444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wegener
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ۵
                                                                                                                                                                                      79;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GLYCOSYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    collaboration
                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     z
                                                                                                                                        205
197
                                              255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        on
                                                                                                                                                                                      19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           its
```

```
RESULT 12
VP4_ROTH3
ID VP4_ROTH3
ID VP4_ROTH3
ID VP4_ROTH3
ID VP4_ROTH3
ID VP4_ROTH3
ID (0.1-F)
ID 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                              CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                             CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
                                                                                                                                                                                                                        CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence upda:
16-OCT-2001 (Rel. 40, Last annotation upo
Outer capsid protein VP4 (Hemagglutinin)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its
        SEQUENCE
                               CARBOHYD
                                                                                                                                                                                                                                                CHAIN
                                                                                                                                                                                                                                                                  CHAIN
                                                                                                                                                                                                                                                                                         Coat
                                                                                                                                                                                                                                                                                                             Pfam; PF00426; VP4; 1.
                                                                                                                                                                                                                                                                                                                          PIR; JQ1638; JQ1638.
InterPro; IPR000416; Cap_VP4.
                                                                                                                                                                                                                                                                                                                                                                         EMBL; D10970;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -!- SIMILARITY: BELONGS TO THE ROTAVIRUS VP4 PROTEIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. MEDLINE=92356070; PubMed=1322955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human rotavirus (serotype G3 /
Viruses; dsRNA viruses; Reoviri
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VP4_ROTH3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=39013;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P39033;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contains: Outer capsid proteins VP5 and VP8].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        256
                                                                                                                                                                                                                                                                                    protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTGDVVLQYRN--VDNNPSDDAIRMAVNIKNTGST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YTNTV---FRNTLLETRPSSRRLELPMPPADFGQT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RYDPNDGSWTD---FASAGDTVTFRQVAVDEVVVTNNPAGGGSAPTFTVRVP-----PSNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VWAGLPQGGTAPAGTPAWEQASSGGYL----TW----RHNGTTFPAGSVSYVLPEGFALE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LIIVGTGTWSQDIHDAADNQLP--DPNTLYALHFYAGTHGQFLRDRIDYAQSRGAAIFVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -TLVDQGFWIGGQYALTPTSLPQYDVSEAYALH------TLTFARPSSAAALAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PGASKSGGWTEQNLSTSGKFVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EW-----GTSDA-----SGNGGPFLPESQTWIDFLNNRGVSWVNWSLTDKSEASAALA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                non-profit institutions as long
        248
17
32
97
132
183
198
237
567
613
                                                                                                                                                                                                                                                                Glycoprotein
1 775
                                                                                                                                                                                                                                                                                                                                                                         BAA01747.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
241
775
17
32
32
97
132
183
198
198
567
567
613
87092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              pe G3 / strain AU-1).
Reoviridae; Rotaviru
        ¥,
                      OUTER CAPSID PROTEIN VP4.
OUTER CAPSID PROTEIN VP5.
OUTER CAPSID PROTEIN VP5.
N-LINKED (GLCNAC...) (POT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
        4148D0C91A89B18A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EQIRAGANLGGGDTPT-TPTTPTEPTNPGNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rotavirus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    388
                                                                                    (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     layer
                          (POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        strain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VP4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             İS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AU-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  no
```

Query Match Best Local Similarity

3.2%;

Score Pred.

108; No. 5

.6;

۲,

Length 775;

```
ALD CONTRACT TO THE PROPERTY OF THE PROPERTY O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ιô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         댦
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ALS1_CANAL
P46590;
01-NOV-1995
    DOMAIN
REPEAT
REPEAT
REPEAT
REPEAT
REPEAT
REPEAT
REPEAT
REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Fungi; Ascomycota;
Saccharomycetales; mitosporic
NCBI_TaxID=5476;
                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
STRAIN-ATCC 11651 / B792;
MEDLINE-95272392; Pubmed-7752895;
MEDLINE-95272392; Pubmed-7752895;
HOyer L.L., Scherer S., Shatzman A.R., Livi G.P.;
"Candida albicans ALS1: domains related to a Saccharomyces cerevisiae sexual agglutinin separated by a repeating motif.";
mol. Microbiol. 15:39-54(1995).
-i- FUNCTION: MAY PLAY A ROLE IN ADHESION AND PATHOGENESIS.
-i- PTM: N-GLYCOSYLATED AND O-GLYCOSYLATED (POTENTIAL).
                                                                                                                                                  SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ALS1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence up
16-CCT-2001 (Rel. 40, Last annotation
Agglutinin-like protein 1 precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CANAL
                                                                                                                                      CHAIN
                                                                                                                                                                               EMBL; L25902; AAC41649.2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              324
                                                                                                                                                                 adhesion;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RLTSVRSVGTVTLPRARVSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QFAHAGLLKN--EEILCLADDLATRLTGVYPATDNFAAAVSAFAANMLSSVLKSEATSSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QVA--VDEVV------VTNNPAGGGSAPTFT-VRVPPSNAYTNTVFRNTLLETRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----IKSVGETAVGAAQSGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MFSMFSGIKSTVEAVKSMTTNVMKRF---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TNDDYQ--TPIANSVTVRQDLERQLGELREEFNSLSQEIAVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NNPGYERTRDLPDYTGIRDSFDONMSTAVAHFRSLSHSCSIVTKTYQGWEGVTNVNTPFG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                *RFRFRLAVSEPSF*----SISRTRMSGIYGLPAVNPNNNAEYYEIAGRFSLISLVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSRRLELPMPPADFGQTVANNPKIEQSLLKETLGCYLVHSKMRNPVFQLTPASSFGAVSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SLAANLNDVVCSGGSYSFALPVGNHPVMSGGAVTLTSAGVTLSTQYTDYVSLNSL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SVNGVNDFNYNGGT-----LPTDFAISRFEVIKENSYVYVDYWDDSQAFRNMVYVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SSGGYLTWRHNGTTFPAGSVSYVLPEGFALERYDP-NDGS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         67;
      18
433
433
469
505
541
577
613
685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                 Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
    1260
792
468
504
576
576
612
648
684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . 595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    616
AGGLUTININ-LIKE PROTEIN 1.
10 X 36 AA TANDEM REPEATS.
1-1.
1-2.
1-3.
1-4.
1-6.
1-7.
1-7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         51;
                                                                                                                                                Repeat; Signal. POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Saccharomycotina; Saccharomycetes; Saccharomycetales; Candida.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ---KTSSLANAISDLTSNM----SEAASSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        on update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         132;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -WTDFASAGDTVTFR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -QLIDLATLPLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14;
                                                                                 뭥
   Š
                               В
                                                    δ.
                                                                                                                 Ş
                                                                                                                                                망
                                                                                                                                                                          Š
                                                                                                                                                                                                        B
                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                           Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CARBOHYD
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
DOMAIN
DOMAIN
DOMAIN
DOMAIN
DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REPEAT
REPEAT
DOMAIN
REPEAT
REPEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                         848
                                                                                                                                                                                                                                     401
                                                                                                                                                  800
                                                                                                                                                                             461
                                                                                                                                                                                                          755
                                                                                                                                                                                                                                                                   695
                                                                                                                                                                                                                                                                                              362
                                                                                                                                                                                                                                                                                                                           647
                                                                                                                                                                                                                                                                                                                                                        311
                                                                                                                                                                                                                                                                                                                                                                                    587
                                                                                                                                                                                                                                                                                                                                                                                                              281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   474 VTTTEYWSQSFATTTTVTAPPGGTDSVIIR-----EPPNPTVTTTEYWSQSFATTTTVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              199 VVDSEQWI-NFTNDTTY-----YVRIRVLRPTYDVPDPTEGLVRTVSDYRLTYKAIT
   TAVGAAQSG
                               TDGISATSSDNVSKSGVSYTTETSVTTIQTTPNPLSSSVTSLTQLSSIPSVSESESKVTF
                                                       TDNFAAAVS------AFAANMLSSVLKSEATSSIIKSVGE-----
                                                                                       SSTTLVTESETTTESICSDGKECSRLSSSSGIVTNPDSNESSIVTSTVPTASTMSDSLSS
                                                                                                                                                                                                                            RVPPSNAYINTVFRNTLLETRPSSRRLELPMPPADFQQTVANNPKIEQSLLKETLGCYLV
                                                                                                                                                                                                                                                                YWSQSYATTTYTAPPGETDTVLIREPPNHTVTTTEYWSQSYATTTTVTAPPGGTDTVII
                                                                                                                                                                                                                                                                                                                                                                                                              -- SEAYALHTLTFARP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C-----EANMPTLVDQGFWIGGQYALTPT-----SLPQYDV----
                                                                                                                  HSCSIVTKTYOGWEGVTNVNTPFGQF-AHAGLLKNEE----
                                                                                                                                                                            HSKMRNPVFQLTPASSFGAVSFNNPGY--ERTRDLPDYTGIRDSFDQNMSTAVAHFRSLS
                                                                                                                                                                                                          REPPNPTVTTTEYWSQSFATTTT----
                                                                                                                                                                                                                                                                                              SWTDFASAGDTVTFRQVAVDEVVVTNNP----
                                                                                                                                                                                                                                                                                                                           REPPNPTVTTTEYWSQS----YAT--TTTTTAPPGETDTV-----
                                                                                                                                                                                                                                                                                                                                                      ----GTAPAGTPAWEQASSGGYLTWRHNGTTFPAGSVSYVLPEGFALERYDPN-----DG
                                                                                                                                                                                                                                                                                                                                                                                 YWSQSYATTTTVTAPPGGTDTVIIREPPNHTVTTTEYWSQSFATTTTVTGPPSGTDTVII
                                                                                                                                                                                                                                                                                                                                                                                                                                           APPGGTDSVIIREPPNPTVTTTEYW-SQSYATTTTVTAPPGGTDSVIIREPPNHTVTTTE
                                                                                                                                                -STSSNDITSIIP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
757
983
983
1092
399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1045
1068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4 404
4 455
4 455
5 53
5 53
5 53
5 59
6 67
7 70
7 70
7 74
3 77
4 87
7 74
3 77
9 72
9 73
9 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                132641
                                                                                                                                                -SFSRPHYVNSTTSDLSTF---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 108; DB
Pred. No. 11;
54; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₩.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            POLY-SER.
N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     POLY-THR.
POLY-THR.
POLY-THR.
POLY-THR.
POLY-THR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            POLY-THR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       POLY-THR.
POLY-THR.
POLY-THR.
POLY-THR.
POLY-THR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1-9.
1-10.
                                                                                                                                                                                                        -VTAPPGGTDTVI----IYESMSSSKI----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                763D1063A2354C24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GLCNAC.
GLCNAC.
GLCNAC.
GLCNAC.
GLCNAC.
GLCNAC.
GLCNAC.
GLCNAC.
GLCNAC.
GLCNAC.
GLCNAC.
GLCNAC.
GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPROXIMATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                              -SSAAALAFVWAGLPQG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           207;
                                                                                                                  -ILCLADDLATRLTGVYPA
                                                                                                                                                ESSSMNTPTSISSDGMLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1260;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels 178;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CRC64;
                                                                                                                                                                                                                                                                                                                           LIREPPNHTVTTTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                              AGGGSAPTFTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                 967
                                                                                                                                                                                                                                     460
                                                                                                                                                                                                                                                                                              400
                                                                                                                                                                                                                                                                                                                           694
                                                                                       907
                                                                                                                    572
                                                                                                                                                847
                                                                                                                                                                             518
                                                                                                                                                                                                        799
                                                                                                                                                                                                                                                                  754
                                                                                                                                                                                                                                                                                                                                                                                   646
                                                                                                                                                                                                                                                                                                                                                                                                                                           586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 527
                                                          606
                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                              310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              249
```

24;

Db 1: | 111 968 TSNGDNQSG 976

Search completed: May 29, 2002, 11:40:45 Job time: 117 sec

•				
·				
				·
		·		
	•			